

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : **07-060955**  
 (43)Date of publication of application : **07.03.1995**

(51)Int.Cl. B41J 2/01  
B41J 2/175

(21)Application number : **05-214031**      (71)Applicant : **CANON INC**  
 (22)Date of filing : **30.08.1993**      (72)Inventor : **ASAI AKIRA**

## (54) INK JET RECORDING HEAD AND INK JET RECORDER EQUIPPED WITH THE RECORDING HEAD

$$i(r) = \frac{I}{\theta r d(r)}$$

$$q(r) = i(r)^2 \rho d(r)$$

$$q(r) = \frac{I^2 \rho}{\theta^2 r^2 d(r)}$$

(57)Abstract:

PURPOSE: To obtain a recording head having a novel heating element wherein heating distribution on a surface of a resistor is equalized and its recorder by a method wherein a heating resistor has a heating part of an approximately circularly annular or fan-like annular surface shape, and its thickness is varied inversely proportional to a distance in a radial direction from a central point of the surface shape.

CONSTITUTION: When voltage is impressed by making a current (I) flow radially along a radial direction of a heating resistor, a thickness d (r) of a heating part of the heating resistor is varied inversely proportional to a radial distance (r) from a center of a surface shape. Thereby, a current density i (r) at any point on the heating part at a radial distance (r) apart from the center comes to be as given by the formula (I). In the formula  $\theta$  is an angle of a fan-like annulus ( $2\pi$  in

the case of a circular annulus). Relation between the resistivity ( $\rho$ ) of the resistor and a heating value q (r) per unit time unit area is as given by the formula II. Therefore, the formula III is obtained.

### LEGAL STATUS

[Date of request for examination]	30.06.1999
[Patent number]	3157964
[Date of registration]	09.02.2001